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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,484	11/08/2001	Robert E. Thompson	W00512/70058 PCL	8415

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EXAMINER

RIVELL, JOHN A

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 04/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,484

Applicant(s)

THOMPSON ET AL.

Examiner

John Rivell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/8/01 (APPL), 2/28/02 (IDS).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claims 1-49 are pending.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "flow sleeve" of claims 3, 4, 5, 26, 27 and 28 and the "metering indicator" of claims 16, 17, 39 and 40 with "marking" of claims 18 and 41 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 45-47 are rejected under 35 U.S.C. §102 (b) as being clearly anticipated by Warren or Desjardins.

Claims 22 and 48-49 are rejected under 35 U.S.C. §102 (b) as being anticipated by Banks.

Regarding claim 22, the patent to Banks clearly shows a valve which includes a body 14 and an outlet 30 or 33. "A closing member" is clearly shown at 10. As demonstrated by comparison of figures 4-7, the valve is disclosed as encompassing differing port 24 shapes in ring 22 and the triangular shapes in figures 5 and 6 serve to anticipate "an opening in the body having a first portion proximate to the outlet and a

second portion distal to the outlet, wherein the second portion is broader than the first portion" when the outlet is read at the lower port 33.

Regarding claims 48-49, the patent to Banks clearly shows "a media control valve (as generally shown in fig. 1) comprising: a valve body (28) comprising a media inlet (30 or 32) and a media outlet (32 or 30); means (such as at smooth tapered surface 16 on the valve head mating with the corresponding smooth tapered surface of "seat" 32) for providing a gentle seal (as defined by applicant there are no sharp edges on valve head surface 16 mating with seat surface of seat 32) positioned within the valve body; a sleeve (22) positioned within the valve body; a media opening (24) in the sleeve (22); a housing (actuator housing 42) connected to the valve body (28); and a base (read as the outlet pipe connected to the outlet 32 or 30) connected to the valve body (28 by threads as shown) and in communication with the media outlet" 32 or 30 as desired as claimed in claim 48.

Regarding claim 49 in Banks the "elastomeric valve seat" is shown at 32.

Claim 23 is rejected under 35 U.S.C. §102 (b) as being anticipated by Bey. The patent to Bey clearly discloses a valve including a "body" 18, a "closing member (74) positioned within the body", a "housing " 20, a "piston (118) within the housing, connected to the closing member and having a containment isolation region" read as the convex, in the direction of the valve body, region cut out of the piston.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 8-15 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Banks. The patent to Shank, Jr. ('873) discloses all the claimed features with the exception of having a "media opening" of variable cross section capable of varying flow rates as a function of valve position relative to the port cross section as well as an additional elastomeric, "gentle" valve "seat". The patent to Banks discloses that it is known in the art to employ a valve body port 24 of variable cross section as in figures 5 and 6 for the purpose of varying the flow rates through the valve as a function of valve piston position relative to the port cross section. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Shank, Jr. ('873) a "media opening" of variable cross for the purpose of varying the flow rates through the valve as a function of valve piston position relative to the port cross section as recognized by Banks. Further, the patent to Banks discloses the addition of a seat surface at the cooperating surfaces of tapered surface 16 and the cooperating surface of "elastomeric", valve "seat" 32 which cooperate to form a "gentle" (i.e. no mating sharp edges as defined by applicant) sealing surface for the purpose of fluid tightly closing the fluid path in addition

to controlling variable flow rates by the cooperation of the ports 24 with the valve head. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to further employ in Shank, Jr. ('873) an additional "elastomeric, "gentle" valve seat at the axial outlet port from sleeve 52 for the purpose of fluid tightly closing the fluid path in addition to controlling variable flow rates by the cooperation of the ports 56 with the valve head 200/208 as recognized by Banks.

Regarding claims 8-10, the "seal" is shown at 34 of Banks. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the integral seal of separate elements attached together, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Regarding claims 11-13, note "filter" 71 of Shank, Jr. ('873). The recitation of "greater than about 20 microns in diameter" is clearly an obvious design expedient over these features as disclosed in Shank, Jr. ('873) which provide no new and/or unexpected results nor solves any stated problem with respect to the "filter" 71 of Shank, Jr. ('873).

Regarding claims 14 and 15, clearly the device of Shank, Jr. ('873) includes a separate "body" 41 (figure 4) connected to the "valve body" 40.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Banks as applied to claims 1, 2, 8-15 and 19-21 above, further in view of Branton et al. The patent to Shank, Jr. ('873), as modified by Banks, discloses all the claimed features with the exception of having a flow sleeve of wear or

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chemically resistant material. The patent to Branton et al. discloses that it is known in the art to employ a double layer pipeline 17 which is used to transport grit "media" of the type disclosed by applicant in which the pipeline is shown having a distinct inner layer or "sleeve". As the device is in fact transporting grit media such as "sand, walnut shells, crushed iron slag, or any of the many other agents used in the blasting industry to remove materials" it is not unreasonable to assume that the inner layer is "wear resistant" as well as "chemically resistant" for the purpose of maintaining pipeline integrity in such harsh environments. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Shank, Jr. ('873), as modified by Banks, a "flow sleeve" within pipeline 43 which is both wear and chemically resistant for the purpose of maintaining pipeline integrity in such harsh environments as recognized by Branton et al.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Banks as applied to claims 1, 2, 8-15 and 19-21 above, further in view of Bey. The patent to Shank, Jr. ('873), as modified by Banks, discloses all the claimed features with the exception of having a convex, in the direction of the valve body, contaminant isolation area. The patent to Bey discloses that it is known in the art to employ a piston element 118 which includes a contaminant isolation region above the piston 118 which will contain and isolate leakage, from below, by the piston by collecting such leakage in the convex cutout region therein for the purpose of isolating leakage in the convex portion of the piston. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in

Shank, Jr. ('873), as modified by Banks, a convex cutout portion in the piston 46 thereof for the purpose of isolating and containing contaminant leaked across the piston as recognized by Bey.

Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Banks as applied to claims 1, 2, 8-15 and above, further in view of Ammann. The patent to Shank, Jr. ('873), as modified by Banks, discloses all the claimed features with the exception of having an adjustable stop element limiting travel of the reciprocating piston, the travel limits being indicated by indicia located on the adjusting elements. The patent to Ammann discloses that it is known in the art to employ an adjustable stop 76, 78 threadably adjusted within a spring retainer 66, including indicia 86, 88 which indicates the amount of travel of the reciprocating fluid pressure actuated valve element 46 may travel for the purpose of indicating and adjusting the maximum flow rate through the valve. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Shank, Jr. ('873), as modified by Banks, an adjustable stop element including indicia for the purpose of indicating and adjusting the maximum flow rate through the valve as recognized by Ammann.

Claims 24, 25, 30 and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Bey. The patent to Shank, Jr. ('873) discloses all the claimed features with the exception of having a convex, in the direction of the valve body, contaminant isolation area. The patent to Bey discloses that it is known in the art to employ a piston element 118 which includes a contaminant isolation

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region above the piston 118 which will contain and isolate leakage, from below, by the piston by collecting such leakage in the convex cutout region therein for the purpose of isolating leakage in the convex portion of the piston. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Shank, Jr. ('873) a convex cutout portion in the piston 46 thereof for the purpose of isolating and containing contaminant leaked across the piston as recognized by Bey. Regarding claim 33, the recitation of "greater than about 20 microns in diameter" is clearly an obvious design expedient over these features as disclosed in Shank, Jr. ('873) which provide no new and/or unexpected results nor solves any stated problem with respect to the "filter" 71 of Shank, Jr. ('873).

Claims 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Bey as applied to claims 24, 25, 30 and 34-38 above, further in view of Banks. The patent to Shank, Jr. ('873), as modified by Bey, discloses all the claimed features with the exception of having a "media opening" of variable cross section capable of varying flow rates as a function of valve position relative to the port cross section as well as an additional elastomeric, "gentle" valve "seat". The patent to Banks discloses the addition of a seat surface at the cooperating surfaces of tapered surface 16 and the cooperating surface of "elastomeric", valve "seat" 32 which cooperate to form a "gentle" (i.e. no mating sharp edges as defined by applicant) sealing surface for the purpose of fluid tightly closing the fluid path in addition to controlling variable flow rates by the cooperation of the ports 24 with the valve head. It would have been obvious at the time the invention was made to a person having

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ordinary skill in the art to further employ in Shank, Jr. ('873), as modified by Bey, an additional "elastomeric, "gentle" valve seat at the axial outlet port from sleeve 52 for the purpose of fluid tightly closing the fluid path in addition to controlling variable flow rates by the cooperation of the ports 56 with the valve head 200/208 as recognized by Banks.

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Bey as applied to claims 24, 25, 30 and 34-38 above, further in view of Branton et al. as applied to claims 3-5 above.

Claims 29 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Banks and Bey applied to claims 6 and 7 above.

Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shank, Jr. ('873) in view of Bey as applied to claims 24, 25, 30 and 34-38 above, further in view of Ammann as applied to claims 16-18 above.

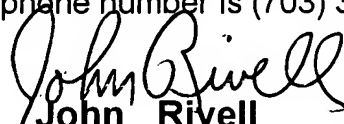
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (703) 308-2599. The examiner can normally be reached on Monday –Thursday between 6:30am and 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Buiz can be reached on (703) 308-0871. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7765 for regular communications and (703) 308-7765 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

j.r.
April 15, 2003


John Rivell
Primary Examiner
Art Unit 3753